

107 8/18/98



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08/174,957	12/23/93	KAMIYAMA	024703006

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EXAMINER  
LEADER, W

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 22

Application Number: 08/174,957

Filing Date: December 28, 1993

Appellant(s): Shiro Kamiyama, Masanori Kosugi, Masahiro Kurata, Sadao Shiraishi, Michio Kobayashi

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Charles H. Jew  
For Appellant

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**SUPPLEMENTAL  
EXAMINER'S ANSWER**

This is in response to appellant's Amendment and Response to Examiner's Answer  
filed November 7, 1996.

Appellants have amended independent claims 1 and 17 to recite that the etching step is  
a single step process. At page 2 of appellants' reply, it is argued that although Chakrabarti

Art Unit:

describes a heating process for superplastic metals, it does not teach or suggest the subsequent single step etching process. At page 3, appellants argued that neither the admitted prior art nor Lowenheim teach this single step etching process.

The Examiner agrees that none of the cited references specifically suggest etching by a single step process as now recited. Nevertheless, it is the position of the Examiner that the invention as now claimed would have been obvious to one of ordinary skill in the art at the time the invention was made.

At page 2, lines 13-14 of the specification, appellants state that "It can be also contemplated to use the known means as disclosed in the following publications." One of these publication is Japanese Patent Laid open 1-212775. This publication discloses etching an aluminum article in an aqueous acidic solution of pH 2 or less followed by etching in an aqueous alkaline solution of pH 13 or more. Appellants observe that "[t]his method has the problem that it requires two-stage treatment" and note that "because of occurrence of smuts, difficulties such as defective coatings may be caused in the subsequent coating and chemical conversion."

Appellant's invention as now claimed differs from the teaching of the admitted prior art, particularly 1-212775, by reciting etching in a single step process of exposing the surface to an aqueous solution containing a chelating agent wherein the aqueous solution consists of a solution having a pH of 7 or higher.

Art Unit:

As indicated in the Examiner's Answer, the Lowenheim text discloses methods for cleaning and coating workpieces. At page 76, Lowenheim states that "Chelating agents have become important in compounding of cleaners, especially with the demand for formulations containing little or no phosphate" and explains that "The most widely used chelating agents in metal cleaners are sodium gluconate, sodium citrate, trisodium nitrilotriacetate (NTA), tetrasodium ethylenediamine tetraacetate (EDTA), and thiethanolamine. These compounds can soften water and tie up many metal ions." Lowenheim specifically recognizes that these chelating agents may be used in etchants for aluminum.

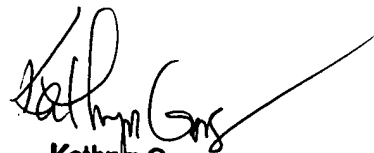
Based on the teaching of Lowenheim, it would have been obvious to have included a chelating agent in the alkaline etch of 1-212775 because improved etching would have been obtained. Once the more efficient alkaline etching step was obtained, it would have been obvious to have utilized this one improved etching step rather than the two less efficient etching steps taught by 1-212775. That is, elimination of the acid etching step would have been an obvious modification of the prior art because its function would no longer be needed in view of the improvement in the alkaline etching step due to the inclusion of the chelating agent.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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August 15, 1998



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